Nucleonica Trainers……

Joseph Magill, Ph.D.

Education

PhD in Computational Plasma Physics
University of Glasgow, 1975

Summary of Experience

Dr. Magill has more than 20 years experience in nuclear science and is the author of four books, more than 150 scientific publications and 10 patents.

Following a Ph.D. in computer simulation of laser driven fusion processes, he took up a position as theoretical physicist with the European Commission. He is one of the pioneers of the field of laser nuclear science in which nuclear reactions are induced by lasers – thereby offering a simple and inexpensive way of studying nuclear processes without a nuclear reactor or particle accelerator. Dr. Magill was a member of the Technical Working group on ADS and is one of the authors of the report: "A European Roadmap for Accelerator Driven Systems for Nuclear Waste Transmutation". He has acted as consultant to the IAEA in Vienna on Partitioning and Transmutation of Nuclear Waste, and coordinated a European benchmark exercise on radiotoxicity of spent nuclear fuel. Dr. Magill is an author on radiochemistry and nuclear chemistry in the Encyclopedia of Life Support Systems or EOLSS, an interdisciplinary encyclopedia sponsored by UNESCO.

He is the originator of Nuclides 2000, Nuclides.net, and the Nucleonica Nuclear Science Portal. Since 2003 he has been responsible for the organisation of nuclear science training courses based on the use of this internet technology. His current activities also include the management of the Karlsruhe Nuclide Chart – and the publication of the latest 7th edition. In 2011, Dr. Magill founded Nucleonica GmbH – a spin-off company from the European Commission's Joint Research Centre.

George Lasche, Ph.D.

Education

Ph.D. in Applied Science
University of California, 1983
Master of Science in Physics and Nuclear Engineering
Massachusetts Institute of Technology, 1977
Master of Business Administration
Long Island University, 1980
Bachelor of Science
U.S. Military Academy at West Point, 1969

Summary of Experience

Dr. George Lasche has more than 20 years experience in nuclear science and is the author of over 30 peer-reviewed scientific publications, conference papers and patents.

He has served as an Associate Professor of Physics at West Point, and as a research associate at Lawrence Livermore National Laboratory, where he conducted research in laser fusion. He was Principal Investigator for four high altitude balloon experiments in Australia and Antarctica to analyze nuclear radiation from Supernova 1987A, and served as a State Department advisor to the UN inspection teams in Iraq in 1991. From 1992 to 1995 he was the Director of the Electronic Warfare Vulnerability Assessment Laboratory, and subsequently the Director of the High Energy Laser Systems Test Facility, both at White Sands Missile Range, New Mexico.

He is currently a member of the technical staff at Sandia National Laboratories, where he was Project Manager for measurement and analysis of the nuclear radiation environment in container ships at sea. He is best known as the author of the "Cambio" nuclear spectral file translation and analysis software, which is now in use by over 600 analysts worldwide, and has been integrated into the Nucleonica web site. He is the technical chair for the ANSI N42.42 standard on nuclear data file formats, now under revision, and is currently conducting research in applied methods of spectral data analysis for the interdiction of illicit nuclear traffic. He is also serving as a Triage and Secondary Reachback Analyst to assist front line officers with resolution of possible nuclear terrorism activities.

Raymond DREHER, Dipl. d'Ing.

Education:

Diplôme d''Ingénieur, option Génie physique
Institut National des Sciences Appliquées de Lyon, France, 1969

Summary of Experience:

Raymond Dreher had the opportunity to join the group of Prof. Hertz at the University of Karlsruhe where he acquired a first-hand experience in NMR pulse spectroscopy on the measurement of relaxation times of different alkali nuclides as salts in water solution. Raymond was also involved in the automation of this kind of measurement using programmable mini computers.
Later, Raymond joined a software startup where he was involved in many software projects covering a wide range of areas: automation of an infra-red spectrometer, in the material testing, data acquisition of a mechanical stress test machine, verifying and controlling of a steel production installation using and processing the data from sparks- and arc-spectrometers. Another main activity was the development of access control systems using different kind of card readers, information systems via intranet, and to the data exchange with payroll systems like Paisy and SAP R/3.
A few years ago, Raymond joined the Nucleonica team at ITU. One of his first tasks was to implement a relational database containing international evaluated datafiles such as JEFF3.1, Nubase 2003, and ICRP68/72, which forms the heart of Nucleonica. Raymond also developed new Nucleonica applications, using the latest web 2.0 technology and web services, and is continuously improving existing modules through the use of Ajax controls and java scripting. Raymond is also involved in the new electronic version of the Karlsruhe Nuclide Chart which is currently under development by the Nucleonica team.

Zsolt Soti, PhD

Education

MSc Mathematics- Computer Science University of Novi Sad (Yugoslavia)
PhD in Medical Informatics University of Lübeck (Germany)

Summay of Experience

At the beginning of his career Dr. Soti designed and optimised complex relational databases on UNIX servers. At 1994 he started to work on medical informatics and developed a Picture Archiving and Communication System for medical images (PACS) at the University of Szeged (Hungary). This was a pioneering project to use standardised formats to send/receive and save medical images. From the archived radiology and nuclear medicine examinations, several web-portals for educational purposes were created.

As of 2001 he continued to design and develop Picture Archiving System for nuclear medicine at the Schleswig-Holstein University in Germany. In that time he started with multidisciplinary research on the mathematical models of quantifications of 4-Dimensional

Positron Emission Tomography examinations. He did his doctoral work on that topic. Dr. Soti is author about of 10 scientific publications. He has more than 20 years experiences in computer science. During his professional life he developed, designed and validated several ICT systems. For example, he was involved in projects for disaster recovery of large databases, secure and encrypted network communication, certifications, standardisation and expert judgement of different IT systems and development of different intranet applications.

As of 2009 Dr. Soti is an IT developer at the Joint Research Centre in Karlsruhe, Germany. He works on project related to the Nuclear Training and Knowledge Management Group. His main topics are: radioactive mixture identification based on gamma spectrum analysis and radiation therapy simulations with charged particles. Dr. Soti is technically responsible for standalone and intranet versions of Nucleonica.

Andrey Berlizov, Ph.D

Education

PhD in Nuclear and Particle Physics
Institute for Nuclear Research, Kiev, UKRAINE, 1995
Master of Science in Experimental Nuclear Physics
Kiev State University, Kiev, UKRAINE, 1991

Summay of Experience

Dr. Berlizov has over 20 years experience in nuclear science and applications and is the author of more than 60 scientific publications in this field, including peer-reviewed articles, book chapters and conference papers.

After his PhD on "Two photon emission in electromagnetic transitions of atomic nuclei" Dr. Berlizov worked as a scientific researcher in the Nuclear Physics Department of Kiev State University, where he combined teaching activities with experimental researches in the field of nuclear spectroscopy. In 1997 he shifted to the Institute for Nuclear Research (INR) of the National Academy of Sciences of Ukraine. Since 1998, as a head of the Neutron Activation Analysis Laboratory, Dr. Berlizov has been involved in the trace element analysis of environmental samples and technological materials at the 10 MWt nuclear research reactor WWR-M in Kiev. Since 1999 he has been joining the INR's expert team on the characterization of nuclear and other radiological materials seized from illicit trafficking. Since 2001 he has been working as a deputy head of the Centre for Ecological Problems of Atomic Energy. In the period from 2007 to 2009 he was working at the Institute for Transuranium Elements as a visiting scientist. Since 2004 he is a member of the scientific and advisory board of the Journal of Radioanalytical and Nuclear Chemistry.

Dr. Berlizov's research interests are nuclear spectroscopy, radioanalytical chemistry, non-destructive assay of nuclear materials, environmental radioactivity, nuclear forensics. He is a developer of several measurement systems and techniques, including a system for continuous radiation monitoring of the first loop coolant of power nuclear reactors, for which in 2006 he was awarded a State Prize of Ukraine in Science and Technology. He is also an expert in scientific programming, computer modelling and simulation. In these fields he is particularly known as a developer of the neutron activation analysis prognostic code NAAPRO, of the correlated particle extension of the general purpose Monte Carlo transport code MCNP-CP, and of the web-based Gamma Spectrum Generator in Nucleonica.

Jozsef Zsigrai, Ph.D

Education

graduated in physics in 1995 at the University of Szeged, Hungary.
PhD in theoretical physics in Budapest, 1999

Summay of Experience

From 1995 to 1998 he worked at the Institute for Particle and Nuclear Physics of the Hungarian Academy of Sciences where he conducted research in general relativity and gravitational physics, in particular on exact solutions of Einstein's equations describing compact, rapidly rotating massive objects. He spent two years in Japan at the University if Hiroshima, working on gravitational physics.

From 1999 to 2001 and from 2004 to 2009 as a research scientist at the Institute of Isotopes of the Hungarian Academy of Sciences he coordinated safeguards measurements of spent fuel for the Paks NPP in Hungary and he was working on the characterization of nuclear material seized from illicit trafficking incidents. He developed new non-destructive analytical methods for nuclear safeguards and nuclear forensics. The methods were mostly based on gamma spectrometry and neutron counting.

Since 2009 he works at the Institute of Transuranium Elements of the European Commission in Karlsruhe, where he is responsible for coordinating the work of the group for non-destructive analysis. He is also developing new non-destructive methods for the analysis of nuclear material.